

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P390503

Luminaire Tested: **22CZ2-60VHE-HRP-UNV-L930-CD1-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P390503  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-60VHE-HRP-UNV-L930-CD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 3000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4279.1 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

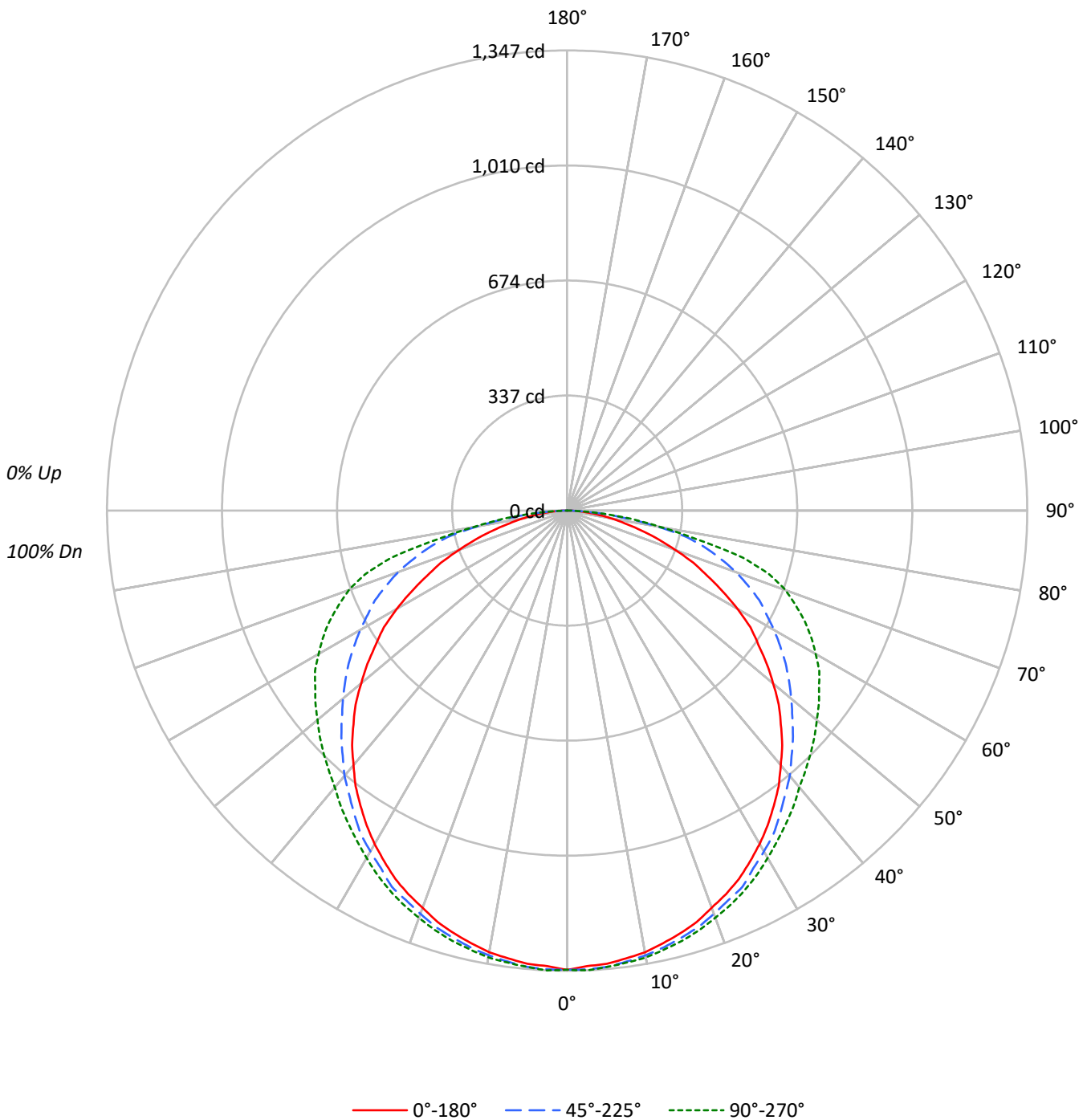
Input Watts (W): 44.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	86		88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72		80	75	71		76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60		70	64	59		67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50		61	55	50		59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43		55	48	43		53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38		50	43	37		48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33		45	38	33		44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29		41	34	29		40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26		38	31	26		37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3617	3617	3617
5°	3597	3622	3622
10°	3587	3613	3630
15°	3569	3604	3631
20°	3543	3597	3633
25°	3533	3608	3645
30°	3502	3580	3649
35°	3464	3568	3671
40°	3417	3561	3716
45°	3366	3558	3833
50°	3295	3584	3993
55°	3205	3663	4224
60°	3101	3761	4524
65°	2886	3948	4891
70°	2650	4136	5349
75°	2324	4353	5531
80°	2001	4147	4342
85°	1751	3013	3304



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.1	3.0
10°-20°	365.1	8.5
20°-30°	557.0	13.0
30°-40°	680.1	15.9
40°-50°	727.2	17.0
50°-60°	701.9	16.4
60°-70°	604.2	14.1
70°-80°	408.8	9.6
80°-90°	107.9	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1049.2	24.5
0°-40°	1729.3	40.4
0°-60°	3158.3	73.8
0°-90°	4279.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4279.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1332	1335	1341	1341	1341	126
15°	1281	1284	1294	1300	1303	361
25°	1190	1196	1215	1221	1228	548
35°	1054	1064	1086	1108	1118	660
45°	885	900	935	982	1007	683
55°	683	705	781	859	900	612
65°	453	497	620	718	768	451
75°	224	296	419	504	532	240
85°	57	79	98	101	107	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1334.7	1337.8	1344.1	1344.1	1347.3
5°	1331.5	1334.7	1341.0	1341.0	1341.0
7.5°	1322.1	1325.3	1331.5	1334.7	1334.7
10°	1312.7	1315.8	1322.1	1325.3	1328.4
12.5°	1296.9	1300.1	1309.5	1315.8	1315.8
15°	1281.2	1284.3	1293.8	1300.1	1303.2
17.5°	1262.3	1268.6	1278.0	1284.3	1287.5
20°	1237.1	1243.4	1256.0	1265.4	1268.6
22.5°	1215.1	1221.4	1234.0	1243.4	1249.7
25°	1189.9	1196.2	1215.1	1221.4	1227.7
27.5°	1158.4	1164.7	1180.5	1193.0	1202.5
30°	1126.9	1133.2	1152.1	1167.9	1174.2
32.5°	1092.3	1101.8	1123.8	1136.4	1145.8
35°	1054.5	1064.0	1086.0	1108.0	1117.5
37.5°	1016.8	1026.2	1048.2	1076.6	1089.2
40°	972.7	985.3	1013.6	1051.4	1057.7
42.5°	931.8	947.5	972.7	1016.8	1032.5
45°	884.6	900.3	934.9	982.1	1007.3
47.5°	840.5	856.2	894.0	950.7	982.1
50°	787.0	809.0	856.2	922.3	953.8
52.5°	736.6	755.5	818.4	890.8	928.6
55°	683.1	705.1	780.7	859.4	900.3
57.5°	635.9	654.8	739.7	827.9	875.1
60°	576.1	601.2	698.8	793.3	840.5
62.5°	513.1	550.9	657.9	755.5	805.9
65°	453.3	497.4	620.1	717.7	768.1
67.5°	399.8	447.0	572.9	676.8	724.0
70°	336.8	396.6	525.7	626.4	679.9
72.5°	280.2	346.3	472.2	572.9	620.1
75°	223.5	295.9	418.7	503.7	532.0
77.5°	173.1	242.4	358.9	384.0	387.2
80°	129.1	192.0	267.6	270.7	280.2
82.5°	88.1	135.4	173.1	188.9	192.0
85°	56.7	78.7	97.6	100.7	107.0
87.5°	25.2	28.3	34.6	31.5	31.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)